UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,826	12/28/2000	John Alson Hicks III	BS00343	5202

38516 7590 06/11/2008

SCOTT P. ZIMMERMAN, PLLC
PO BOX 3822
CARY, NC 27519

EXAMINER	
PARRY, CHRISTOPHER L	
ART UNIT	PAPER NUMBER
2623	
MAIL DATE	DELIVERY MODE
06/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/749,826	HICKS ET AL.	
	Examiner	Art Unit	
	CHRIS PARRY	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7,17-20 and 23-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7,17-20 and 23-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 May 2008 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 4-7, 17-20 and 23-34 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's failure to adequately traverse the Examiner's taking of Official Notice in the last Office Action is taken as an admission of the fact(s) noticed.

4. Applicant's arguments filed 12 May 2008 have been fully considered but they are not persuasive.

In response to applicant's argument (Page 14, 5th ¶) stating, Rakib does not disclose the architectural features of a plurality of buses, system data bus connected to the media bus, wherein the deciphered information signals communicate from the buses to the data switch and wherein data switch information from the data switch

communicates from the network bus to the system data bus, the examiner respectfully disagrees.

Rakib discloses a plurality of buses comprising a media bus (761 – figure 7A), a network bus (760, 787 – figure 7A), and a system data bus (756 – figure 7A).

Rakib further discloses the system data bus (756 – figure 7A) connected to the media bus (761 – figure 7A) and configured to only receive the deciphered information signals from the media bus, the system data bus unable to send information to the media bus (Col. 35, line 56 to Col. 36, line 30). Rakib discloses system data bus 756 is connected to all circuits in the gateway that have to interface with CPU 728 and therefore only communicates signals directly to gateway circuits and not through media bus 761 via direct connections.

Rakib further teaches wherein the deciphered information signals, the decipher information signals being the signals received from MPEG encoder 747 are encapsulated into PCI bus packets are communicated from the media bus [761], to the system data bus [756], and to the network bus [787] for routing by the data switch [786] (Col. 33, lines 24-35).

Rakib discloses wherein data switch information, such as received requests from users, from the data switch communicates from the network bus [787] to the system data bus [756], but the data switch information is prevented from communicating to the media bus (Col. 33, lines 26-39) because the host CPU 728 receives the channel request and then directly contacts tuner 700 to tune to the requested channel.

Claim Objections

5. Claims 1, 17, and 26 are objected to because of the following informalities: On line 23 of claim 1, "video overly" should be --video overlay--. This error is made multiple times in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 17, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The written specification fails to provide adequate support for a cipher/decipher circuit that deciphers the digital information from the analog-to-digital converter and deciphers the converted decrypted information signal from the decoder circuit. By reviewing figure 6, one would have to make unreasonable assumptions that the cipher/decipher circuit deciphers the received information because on pages 17 and 18 the cipher/decipher circuit decrypts a received signal from an auxiliary input while on

page 23, there is no information on cipher/decipher logic 628 other than being coupled to media bus 610.

Further the written specification fails to provide support for the system data bus configured to only receive the deciphered information signals from the media bus, the system data bus unable to send information to the media bus. Again, one would be required to make unreasonable assumptions from figure 6 to conclude that system data bus is unable to send information to the media bus.

Furthermore, the written specification fails to provide support for wherein data switch information from the data switch communicates from the network bus to the system data bus, but the data switch information is prevented from communicating to the media bus. The specification provides support for routing received information signals from the system bus via the network bus to one or more switch ports, however support is not provided for the switch providing signals to the system bus.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib et al. "Rakib" (USPN 6,889,385) [of record] in view of Sheppard et al. "Sheppard" (US Pub. No. 2003/0192053) and further in view of Hirota (USPN

6,839,902) and further in view of Arsenault et al. "Arsenault" (US Pub. No. 2004/0175120).

Regarding Claim 1, Rakib discloses a system for multimedia on demand (figure 7A – 308), the system comprising:

a plurality of buses comprising a media bus (761 – figure 7A), a network bus (760/787 – figure 7A), and a system data bus (756 – figure 7A);

a plurality of tuners (780, 700, 702, 704 – figure 7A) and demodulators (820, 738, 746 – figure 7A) connected to an analog-to-digital converter (730 – figure 7A), the plurality of tuners and demodulators sending an analog information signal to the analog-to-digital converter, and the analog-to-digital converter outputting digital information signal based at least in part on the analog information signal (Col. 32, lines 49-52, Col. 33, lines 24-39, Col. 34, lines 16-52);

the plurality of tuners and demodulators also connected to a decryption circuit (726/786 – figure 7A) that decrypts an encrypted information signal received from the plurality of tuners and demodulators and produces a decrypted information signal (Col. 36, lines 4-30);

a decoder circuit (742 – figure 7A) that coverts the information signal from one format to a second format (Col. 34, lines 24-36);

a cipher/decipher circuit connected to the decoder circuit [742] and connected to the analog-to-digital converter [730] that deciphers the digital information from the analog-to-digital converter and deciphers the converted decrypted information signal

from the decoder circuit (i.e., compressed video data in encapsulated in PCI bus packets for transmission on bus 761) (Col. 34, lines 37-38);

the cipher/decipher circuit connected to the media bus (761 – figure 7A) and sending deciphered information signals to the media bus (Col. 34, lines 37-41);

the system data bus (756 – figure 7A) connected to the media bus (761 – figure 7A) and configured to only receive the deciphered information signals from the media bus, the system data bus unable to send information to the media bus (i.e., system data bus 756 only sends signals to individual circuits that are directly connected) (figure 7A) (Col. 35, line 56 to Col. 36, line 30);

the network bus (760/787 – figure 7A) connected to the system data bus (756 – figure 7A) and receiving system data bus information communicated along the system data bus (Col. 34, lines 48-52);

a mass storage device (135 – figure 7A) connected to the system data bus (756 – figure 7A);

a data switch (786 – figure 7A) connected to the network bus (760/787 – figure 7A), the data switch receiving the system data bus information and sending the system data bus information to one or more switch ports; (Col. 33, lines 32-35 and Col. 34, lines 48-59)

a processor (728 – figure 7A) connected to the system data bus (756 – figure 7A) (Col. 33, lines 24-35);

memory (129 – figure 7A) coupled to the system data bus (756 – figure 7A);

wherein the deciphered information signals communicate from the media bus [761], to the system data bus [756], and to the network bus [787] for routing by the data switch [786] (Col. 33, lines 24-35),

wherein data switch information from the data switch communicates from the network bus to the system data bus, but the data switch information is prevented from communicating to the media bus (Col. 33, lines 26-39).

Rakib fails to specifically disclose a decoder circuit connected to the decryption circuit, a cipher/decipher circuit connected to the decoder circuit, a video overlay processor, a network bus receiving video overlay signals, a mass storage device connected to the system data bus and storing the system data bus information and the video overlay signals, a data switch connected to the network bus, the data switch receiving the system data bus information and the video overlay signals and sending the system data bus information and the video overlay signals to one or more switch ports, and wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch.

In an analogous art, Sheppard discloses a system for multimedia on demand (figure 5), the system comprising:

a video overlay processor (450 – figure 5) connected between the system data bus (422 – figure 5) and the media bus (424 – figure 5), the video overlay processor receiving the deciphered information signals from the media bus [424] and sending video overlay signals to the system data bus [422] (¶ 0069-0071);

the network bus (interconnecting line between CNTRL BUS 422 and NIM 410) connected to the system data bus (422 – figure 5) and receiving system data bus and video overlay information communicated along the system data bus (¶ 0057-0058 & 0069-0071).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rakib to include a video overlay processor and a network bus receiving system data bus and video overlay information as taught by Sheppard for the benefit of supporting communications with multiple locations within the home.

The combination of Rakib and Sheppard fail to specifically disclose a decoder circuit connected to the decryption circuit and a mass storage device receiving system data bus information and video overlay signals.

In an analogous art, Hirota discloses a system for multimedia on demand (figure 1), the system comprising:

a decoder circuit (17 – figure 1) connected to the decryption circuit (15 – figure 1) that coverts the decrypted information signal from one format to a second format (Col. 3, lines 25-48);

a video overlay processor (110 – figure 1) connected between the system data bus and the media bus, the video overlay processor receiving the deciphered information signals from the media bus and sending video overlay signals to the system data bus (Col. 3, lines 40-59);

a mass storage device (119 – figure 1) connected to the system data bus and storing the system data bus information and the video overlay signals (Col. 4, lines 20-64).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rakib and Sheppard to include a decoder circuit connected to the decryption circuit and a mass storage device storing system data bus information and the video overlay signals as taught by Hirota for the benefit of allowing user's to store their favorite programs for viewing at a later time.

The combination of Rakib, Sheppard, and Hirota fail to specifically disclose wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch.

In an analogous art, Arsenault discloses a system for multimedia on demand (36 – figure 2), the system comprising: wherein the video overlay signals communicate from the video overlay processor (from video decoder & OSD 78), to the system data bus, and to the network bus for routing by the data switch (84 – figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rakib, Sheppard, and Hirota to include wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch as taught by Arsenault for the benefit of providing programming information which can be used to improve the user's on-demand viewing experience.

As for Claim 5, Rakib, Sheppard, Hirota, and Arsenault disclose, in particular Rakib teaches, a system comprising a web server coupled to the system data bus, the web server providing access to content stored in the mass storage device (Col. 44, line 51 to Col. 45, line 5).

As for Claim 6, Rakib Sheppard, Hirota, and Arsenault disclose, in particular Rakib teaches, a graphical user interface stored in the memory that provides access to content stored in the mass storage device (Col. 44, lines 51-67).

As for Claim 7, Rakib Sheppard, Hirota, and Arsenault disclose, in particular Rakib teaches, a graphical user interface stored in the memory that provides access to information available from the data switch (Col. 44, lines 51-67).

9. Claims 17-19 and 25-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib in view of Sheppard, further in view of Hirota, further in view of Arsenault, further in view of Russo (USPN 6,732,366) [of record] and further in view of Craig (USPN 5,790,176) [of record].

Regarding Claim 17, Rakib discloses a system for multimedia on demand (figure 7A – 308), the system comprising:

a plurality of buses comprising a media bus (761 – figure 7A), a network bus (760/787 – figure 7A), and a system data bus (756 – figure 7A);

a plurality of tuners (780, 700, 702, 704 – figure 7A) and demodulators (820, 738, 746 – figure 7A) connected to an analog-to-digital converter (730 – figure 7A), the plurality of tuners and demodulators sending an analog information signal to the analog-to-digital converter, and the analog-to-digital converter outputting digital information signal based at least in part on the analog information signal (Col. 32, lines 49-52, Col. 33, lines 24-39, Col. 34, lines 16-52);

the plurality of tuners and demodulators also connected to a decryption circuit (726/786 – figure 7A) that decrypts an encrypted information signal received from the plurality of tuners and demodulators and produces a decrypted information signal (Col. 36, lines 4-30);

a decoder circuit (742 – figure 7A) that coverts the information signal from one format to a second format (Col. 34, lines 24-36);

a cipher/decipher circuit connected to the decoder circuit [742] and connected to the analog-to-digital converter [730] that deciphers the digital information from the analog-to-digital converter and deciphers the converted decrypted information signal from the decoder circuit (i.e., compressed video data in encapsulated in PCI bus packets for transmission on bus 761) (Col. 34, lines 37-38);

the cipher/decipher circuit connected to the media bus (761 – figure 7A) and sending deciphered information signals to the media bus (Col. 34, lines 37-41);

the system data bus (756 – figure 7A) connected to the media bus (761 – figure 7A) and configured to only receive the deciphered information signals from the media bus, the system data bus unable to send information to the media bus (i.e., system data

bus 756 only sends signals to individual circuits that are directly connected) (figure 7A) (Col. 35, line 56 to Col. 36, line 30);

the network bus (760/787 – figure 7A) connected to the system data bus (756 – figure 7A) and receiving system data bus information communicated along the system data bus (Col. 34, lines 48-52);

a mass storage device (135 – figure 7A) connected to the system data bus (756 – figure 7A);

a data switch (786 – figure 7A) connected to the network bus (760/787 – figure 7A), the data switch receiving the system data bus information and sending the system data bus information to one or more switch ports; (Col. 33, lines 32-35 and Col. 34, lines 48-59)

a processor (728 – figure 7A) connected to the system data bus (756 – figure 7A) (Col. 33, lines 24-35);

memory (129 – figure 7A) coupled to the system data bus (756 – figure 7A);

wherein the deciphered information signals communicate from the media bus [761], to the system data bus [756], and to the network bus [787] for routing by the data switch [786] (Col. 33, lines 24-35),

wherein data switch information from the data switch communicates from the network bus to the system data bus, but the data switch information is prevented from communicating to the media bus (Col. 33, lines 26-39).

Rakib fails to specifically disclose a decoder circuit connected to the decryption circuit, a cipher/decipher circuit connected to the decoder circuit, a video overlay

processor, a network bus receiving video overlay signals, a mass storage device connected to the system data bus and storing the system data bus information and the video overlay signals, a data switch connected to the network bus, the data switch receiving the system data bus information and the video overlay signals and sending the system data bus information and the video overlay signals to one or more switch ports, and wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch.

In an analogous art, Sheppard discloses a system for multimedia on demand (figure 5), the system comprising:

a video overlay processor (450 – figure 5) connected between the system data bus (422 – figure 5) and the media bus (424 – figure 5), the video overlay processor receiving the deciphered information signals from the media bus [424] and sending video overlay signals to the system data bus [422] (¶ 0069-0071);

the network bus (interconnecting line between CNTRL BUS 422 and NIM 410) connected to the system data bus (422 – figure 5) and receiving system data bus and video overlay information communicated along the system data bus (¶ 0057-0058 & 0069-0071).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rakib to include a video overlay processor and a network bus receiving system data bus and video overlay information

as taught by Sheppard for the benefit of supporting communications with multiple locations within the home.

The combination of Rakib and Sheppard fail to specifically disclose a decoder circuit connected to the decryption circuit and a mass storage device receiving system data bus information and video overlay signals.

In an analogous art, Hirota discloses a system for multimedia on demand (figure 1), the system comprising:

a decoder circuit (17 – figure 1) connected to the decryption circuit (15 – figure 1) that coverts the decrypted information signal from one format to a second format (Col. 3, lines 25-48);

a video overlay processor (110 – figure 1) connected between the system data bus and the media bus, the video overlay processor receiving the deciphered information signals from the media bus and sending video overlay signals to the system data bus (Col. 3, lines 40-59);

a mass storage device (119 – figure 1) connected to the system data bus and storing the system data bus information and the video overlay signals (Col. 4, lines 20-64).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rakib and Sheppard to include a decoder circuit connected to the decryption circuit and a mass storage device storing system data bus information and the video overlay signals as taught by Hirota for the benefit of allowing user's to store their favorite programs for viewing at a later time.

The combination of Rakib, Sheppard, and Hirota fail to specifically disclose wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch.

In an analogous art, Arsenault discloses a system for multimedia on demand (36 – figure 2), the system comprising: wherein the video overlay signals communicate from the video overlay processor (from video decoder & OSD 78), to the system data bus, and to the network bus for routing by the data switch (84 – figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rakib, Sheppard, and Hirota to include wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch as taught by Arsenault for the benefit of providing programming information which can be used to improve the user's on-demand viewing experience.

However, the combination of Rakib, Sheppard, Hirota, and Arsenault fail to specify that the mass storage device (135 – figure 7A) is used for storing the information signals and is adapted to receive and store the information signals as a plurality of multimedia content items. Rakib further fails to disclose storing a multimedia-on-demand data table and instructions in memory as claimed.

In an analogous art, Russo discloses a system for multimedia on demand (Col. 3, lines 9-30), the system comprising a mass storage device (110 – figure 2)…which stores the information signals, the mass storage device adapted to receive and store

the information signals as a plurality of multimedia content items (Col. 7, lines 44-46, Col. 8, lines 7-41, and Col. 10, lines 21-25).

Russo discloses, a system comprising a memory (158 – figure 2) storing a multimedia-on-demand data table and multimedia-on-demand instructions (Col. 9, line 62 to Col. 10, line 5 and Col. 10, lines 14-20).

Russo further discloses, the multimedia-on-demand table including a plurality of multimedia content usage records, each multimedia content usage record adapted to include a multimedia content usage indicator field to store a multimedia content usage indicator, the multimedia content usage indicator associated with a multimedia content item (*i.e.*, which programs stored on the storage device have been viewed) stored on the mass storage device (Col. 5, lines 3-10, Col. 9, line 62 to Col. 10, line 5, and Col. 10, lines 14-39).

Russo teaches the multimedia-on-demand instructions to be executed by the processor, the multimedia-on-demand instructions including instructions to – automatically receive the plurality of multimedia content items… (Col. 10, lines 9-39).

Russo teaches, the multimedia-on-demand instructions to be executed the processor, the multimedia-on-demand instructions including instructions to – send a multimedia-on-demand usage message, the multimedia-on-demand usage message to be based at least in part on the multimedia-on-demand data table (Col. 5, lines 12-31 and Col. 10, lines 9-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rakib, Sheppard, Hirota, and

Arsenault with the teachings of Russo to include a multimedia-on-demand table and instructions for the benefit of improving the user's on-demand viewing experience.

Rakib, Sheppard, Hirota, Arsenault, and Russo fail to disclose receiving the multimedia content item at a transmission rate that is less than a real time transmission rate in bytes per second.

In an analogous art, Craig discloses receiving a multimedia content item at a transmission rate that is less than a real time transmission rate in bytes per second (*i.e.,* slower than real-time) (Col. 11, line 60 to Col. 12, line 5), thus providing multiple service levels and charging subscribers accordingly. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rakib, Sheppard, Hirota, Arsenault, and Russo to include receiving the multimedia content item at a less-than-real-time transmission rate for the benefit of providing flexible service arrangements that match the needs of subscribers.

As for Claim 18, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches wherein each multimedia content usage record is adapted to include a multimedia content identifier field to store a multimedia content identifier, the multimedia content identifier to correspond to a multimedia content item of the plurality of multimedia content items stored on the mass storage device (Col. 5, lines 3-41).

As for Claim 19, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches wherein a multimedia content usage indicator is selected from the group consisting of a content played indicator, a content purchased indicator, and a content unused indicator (Col. 9, line 62 to Col. 10, line 20).

As for Claim 25, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches, wherein the multimedia-on-demand instructions include instructions to receive the plurality of multimedia content items from a multimedia-on-demand service provider, the multimedia-on-demand service provider selected from the group consisting of a direct broadcast satellite television service provider, a cable television service provider, a terrestrial broadcast television service provider, a wireless broadband data service provider, and a wired broadband data service provider (Col. 8, lines 22-41).

Regarding Claim 26, Rakib discloses a method for providing multimedia-on-demand, the method comprising:

connecting a plurality of tuners (780, 700, 702, 704 – figure 7A) and demodulators (820, 738, 746 – figure 7A) to a system data bus (756 - figure 7A) and to an analog-to-digital converter (730 – figure 7A), the plurality of tuners and demodulators sending an analog information signal to the analog-to-digital converter, and the analog-to-digital converter outputting digital information signal based at least in part on the

analog information signal (Col. 32, lines 49-52, Col. 33, lines 24-39, Col. 34, lines 16-52);

connecting the plurality of tuners and demodulators to a decryption circuit (726/786 – figure 7A) that decrypts an encrypted information signal received from the plurality of tuners and demodulators and produces a decrypted information signal (Col. 36, lines 4-30);

connecting a decoder circuit (742 – figure 7A) that coverts the information signal from one format to a second format (Col. 34, lines 24-36);

connecting a cipher/decipher circuit to the decoder circuit [742] and to the analog-to-digital converter [730] that deciphers the digital information from the analog-to-digital converter that deciphers the converted decrypted information signal from the decoder circuit (i.e., compressed video data in encapsulated in PCI bus packets for transmission on bus 761) (Col. 34, lines 37-38);

connecting the cipher/decipher circuit connected to the media bus (761 – figure 7A) and sending deciphered information signals to the media bus (Col. 34, lines 37-41);

connecting the system data bus (756 – figure 7A) to the media bus (761 – figure 7A) and configuring the system data bus to only receive the deciphered information signals from the media bus, the system data bus unable to send information to the media bus (i.e., system data bus 756 only sends signals to individual circuits that are directly connected) (figure 7A) (Col. 35, line 56 to Col. 36, line 30);

connecting the network bus (760/787 – figure 7A) to the system data bus (756 – figure 7A) and receiving system data bus information communicated along the system data bus (Col. 34, lines 48-52);

connecting a mass storage device (135 – figure 7A) to the system data bus (756 – figure 7A);

connecting a data switch (786 – figure 7A) to the network bus (760/787 – figure 7A), the data switch receiving the system data bus information and sending the system data bus information to one or more switch ports; (Col. 33, lines 32-35 and Col. 34, lines 48-59)

connecting a processor (728 – figure 7A) connected to the system data bus (756 – figure 7A) (Col. 33, lines 24-35);

connecting memory (129 – figure 7A) to the system data bus (756 – figure 7A);

wherein the deciphered information signals communicate from the media bus [761], to the system data bus [756], and to the network bus [787] for routing by the data switch [786] (Col. 33, lines 24-35),

wherein data switch information from the data switch communicates from the network bus to the system data bus, but the data switch information is prevented from communicating to the media bus (Col. 33, lines 26-39).

Rakib fails to specifically disclose a decoder circuit connected to the decryption circuit, a cipher/decipher circuit connected to the decoder circuit, a video overlay processor, a network bus receiving video overlay signals, a mass storage device connected to the system data bus and storing the system data bus information and the

video overlay signals, a data switch connected to the network bus, the data switch receiving the system data bus information and the video overlay signals and sending the system data bus information and the video overlay signals to one or more switch ports, and wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch.

In an analogous art, Sheppard discloses a method for providing multimedia on demand, the method comprising:

connecting a video overlay processor (450 – figure 5) between the system data bus (422 – figure 5) and the media bus (424 – figure 5), the video overlay processor receiving the deciphered information signals from the media bus [424] and sending video overlay signals to the system data bus [422] (¶ 0069-0071);

connecting the network bus (interconnecting line between CNTRL BUS 422 and NIM 410) to the system data bus (422 – figure 5) and receiving system data bus and video overlay information communicated along the system data bus (¶ 0057-0058 & 0069-0071).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Rakib to include a video overlay processor and a network bus receiving system data bus and video overlay information as taught by Sheppard for the benefit of supporting communications with multiple locations within the home.

The combination of Rakib and Sheppard fail to specifically disclose a decoder circuit connected to the decryption circuit and a mass storage device receiving system data bus information and video overlay signals.

In an analogous art, Hirota discloses a method for providing multimedia on demand, the method comprising:

connecting a decoder circuit (17 – figure 1) to the decryption circuit (15 – figure 1) that coverts the decrypted information signal from one format to a second format (Col. 3, lines 25-48);

connecting a video overlay processor (110 – figure 1) between the system data bus and the media bus, the video overlay processor receiving the deciphered information signals from the media bus and sending video overlay signals to the system data bus (Col. 3, lines 40-59);

connecting a mass storage device (119 – figure 1) to the system data bus and storing the system data bus information and the video overlay signals (Col. 4, lines 20-64).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Rakib and Sheppard to include a decoder circuit connected to the decryption circuit and a mass storage device storing system data bus information and the video overlay signals as taught by Hirota for the benefit of allowing user's to store their favorite programs for viewing at a later time.

The combination of Rakib, Sheppard, and Hirota fail to specifically disclose wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch.

In an analogous art, Arsenault discloses a method for providing multimedia on demand, the method comprising: wherein the video overlay signals communicate from the video overlay processor (from video decoder & OSD 78), to the system data bus, and to the network bus for routing by the data switch (84 – figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Rakib, Sheppard, and Hirota to include wherein the video overlay signals communicate from the video overlay processor, to the system data bus, and to the network bus for routing by the data switch as taught by Arsenault for the benefit of providing programming information which can be used to improve the user's on-demand viewing experience.

However, Rakib, Sheppard, Hirota, and Arsenault fail to specify that the mass storage device receives information signals and is adapted to receive and store the information signals as a plurality of multimedia content items. The combination further fail to disclose storing information signals in memory as claimed.

In an analogous art, Russo discloses a method for multimedia on demand (Col. 3, lines 9-30), the method comprising a mass storage device (110 – figure 2)…that receives the information signals, and stores the information signals (Col. 7, lines 44-46, Col. 8, lines 7-41, and Col. 10, lines 21-25).

Russo discloses a method for storing the information signals in memory (158 – figure 2) connected to the system data bus (152 – figure 2) (Col. 9, line 62 to Col. 10, line 5 and Col. 10, lines 14-20).

Russo teaches, processing an instruction to automatically receive a first multimedia content item… (Col. 10, lines 9-39).

Russo teaches, storing the first multimedia content item (Col. 10, lines 14-20).

Russo discloses, modifying a data table to include a first multimedia content identifier, the first multimedia content identifier corresponding to the first multimedia content item (*i.e.*, which programs stored on the storage device have been viewed) (Col. 5, lines 3-10, Col. 9, line 62 to Col. 10, line 5, and Col. 10, lines 14-39).

Russo teaches, sending a multimedia usage report, the multimedia-on-demand usage message to be based at least in part on the multimedia-on-demand data table (Col. 5, lines 12-31 and Col. 10, lines 9-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rakib with the teachings of Russo to include a multimedia-on-demand table and instructions for the benefit of improving the user's on-demand viewing experience.

Rakib, Sheppard, Hirota, Arsenault, and Russo fail to disclose processing the first multimedia content item at a transmission rate that is less than a real time transmission rate in bytes per second. In an analogous art, Craig discloses processing the first multimedia content item at a transmission rate that is less than a real time transmission rate in bytes per second (*i.e.,* slower than real-time) (Col. 11, line 60 to Col. 12, line 5), thus providing multiple service levels and charging subscribers

accordingly. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Rakib, Sheppard, Hirota, Arsenault and Russo to include processing the first multimedia content item at a less-than-real-time transmission rate as taught by Craig for the benefit of providing flexible service arrangements that match the needs of subscribers.

As for Claim 27, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches the method further comprising: receiving a multimedia content item usage instruction (play command) related to the first multimedia content item (Col. 11, lines 2-10).

Russo further teaches, directing usage of the first multimedia content item based at least in part on the multimedia content item usage instruction (play command) (Col. 8, lines 42-52 and Col. 10 lines 20-32).

Russo further teaches updating the data table based at least in part on the multimedia content item usage instruction (Col. 9, line 62 to Col. 10, line 9).

As for Claim 28, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches, wherein the multimedia content item usage instruction is an instruction to playback the multimedia content item as part of a multimedia content item viewing transaction (Col. 6, lines 45-65).

As for Claim 29, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches, wherein updating the data table based at least in part on the multimedia content item usage instruction includes storing a first multimedia content item usage indicator, the first multimedia content item usage indicator associated with the first multimedia content identifier (Col. 5, lines 3-10, Col. 9, line 62 to Col. 10, line 5, and Col. 10, lines 14-39).

As for Claim 30, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches, wherein the multimedia usage report is based at least in part on the first multimedia content item usage indicator (Col. 6, lines 45-62 and Col. 10, lines 20-48).

As for Claim 31, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches, wherein the first multimedia content item usage indicator is a content played indicator (Col. 10, lines 25-32).

As for Claim 32 and 33, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose, in particular Russo teaches, the method further comprising: automatically receiving a second multimedia content item… (Col. 9, line 62 to Col. 10, line 19).

Russo further teaches, storing the second multimedia content item (Col. 7, lines 41-46).

Russo further teaches, updating the data table to include a second multimedia content item identifier, the second multimedia content item identifier corresponding to the second multimedia content item (Col. 9, line 62 to Col. 10, line 9).

However, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig fail to specifically disclose the second multimedia content item will replace the first multimedia content item and storing the second multimedia content item includes deleting the first multimedia content item. The examiner gives Official Notice that it is notoriously well known in the art to replace a first stored item with a second item by deleting the first item. Furthermore, it is well known that upon deleting an item, its record would be removed from the list of programming selections available to the user on the storage medium since the item is no longer available to the user. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig with the replacement of content of well-known prior art in order to allow a newer version of content to be received or to enable the receiving of new content by deleting older content in order to free up available storage space.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib in view of Sheppard and further in view of Hirota and further in view of Arsenault as applied to claim 1 above, and further in view of Barton et al. “Barton” (U.S. 2002/0118954) [of record].

As for Claim 4, Rakib, Sheppard, Hirota, and Arsenault fail to disclose a storage position identifier for each multimedia content item stored in the memory, the storage position identifier specifying a logical storage position for the multimedia content item, the storage position identifier received from a service provider and updated by the service provider.

In an analogous art, Barton discloses a storage position identifier (aggregate attributes, e.g., viewer-based program ranking ¶ 210-217) for each multimedia content item stored in the memory, the storage position identifier specifying a logical storage position for the multimedia content item (¶ 123), the storage position identifier received from a service provider and updated by the service provider (¶ 219-220), thus enabling service providers more compelling ways to promote viewing of television programming. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rakib, Sheppard, Hirota, and Arsenault with the teachings of Barton to include a storage position identifier for the benefit of providing a more engaging television viewing experience.

11. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib in view of Sheppard, further in view of Hirota, further in view of Arsenault, further in view of Russo and further in view of Craig as applied to claim 17 above, and further in view of Chou (USPN 6,637,031) [of record].

As for Claims 23 and 24, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig disclose wherein a portion of the multimedia content item being less

than the entirety of the multimedia content item is received at a transmission rate that is less than the playback rate in bytes per second (i.e., where the entirety of the content is received at a rate less than the playback rate [Craig – Col. 11 line 43 to Col. 12, line 5], a portion thereof is inherently also received at a rate that is less than the playback rate).

However, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig fail to disclose making a determination, based at least in part on the transmission rate and playback rate, that continuous playback of the entirety of the item can begin prior to the receipt of the entirety of the item.

In an analogous art, Chou discloses that continuous playback of the entirety of the multimedia content item can begin prior to receipt of the entirety of the multimedia content item, and based at least in part on the transmission rate and the playback rate (Col. 2, lines 7-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig with the teachings of Chou to begin playback of an incomplete file in order to allow a user to begin watching media content without having to wait for long periods of time for the entire transfer to be complete.

12. Claims 20 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib in view of Sheppard, further in view of Hirota, further in view of Arsenault, further in view of Russo and further in view of Craig as applied to claims 17 and 26 above, and further in view of Barton.

As for Claims 20 and 34, the combination of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig fail to disclose a storage position identifier for each multimedia content item, the storage position identifier specifying a logical storage position for the multimedia content item, the storage position identifier received from a service provider and updated by the service provider with each change in the multimedia-on-demand data table.

In an analogous art, Barton discloses a storage position identifier (aggregate attributes, e.g., viewer-based program ranking ¶ 210-217) for each multimedia content item, the storage position identifier specifying a logical storage position for the multimedia content item (¶ 123), the storage position identifier received from a service provider and updated by the service provider with each change in the multimedia-on-demand data table (¶ 219-220), thus enabling service providers more compelling ways to promote viewing of television programming. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system and method of Rakib, Sheppard, Hirota, Arsenault, Russo, and Craig with the teachings of Barton to include a storage position identifier for the benefit of providing a more engaging television viewing experience.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRIS PARRY whose telephone number is (571) 272-

8328. The examiner can normally be reached on Monday through Friday, 8:00 AM EST to 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CHRIS PARRY
Examiner
Art Unit 2623

/C. P./
Examiner, Art Unit 2623

/Christopher Grant/
Supervisory Patent Examiner, Art Unit 2623